

---

# Appendix B

## Example Project Baseline Summary



# **Project Baseline Summary Report**

**Report ID Number:** Q501

Data Version:	16-Jan-98	Print Date:	19-Feb-98
Operations/Field Office:	<b>Idaho</b>	Site:	<b>Idaho National Engineering and Environmental Laboratory</b>
HQ ID:	<b>IDIN0570</b>	Project:	<b>INEEL Low-Level Waste/Mixed Low-Level Waste/Other Waste Program (ID-WM-101)</b>
<hr/>			
<b>A.1. - Project Identification/Header Information</b>			
A.1.5. DOE Project Manager:	Jeff T. Shadley	A.1.9. Contractor Project Manager:	M. C. Tiernan
A.1.6. DOE Project Manager Phone Number:		A.1.10. Contractor Project Manager Phone Number:	
A.1.7. DOE Project Manager Fax Number:		A.1.11. Contractor Project Manager Fax Number:	
A.1.8. DOE Project Manager e-mail address:		A.1.12. Contractor Project Manager e-mail address:	
A.1.14. Program Element:	WM	A.1.15. Project Type:	Operational
A.1.16. Is this a High Visibility Project (Y/N):	No		

## **A.2. Technical and Scope Narratives**

### **A.2.1. Purpose of Project:**

Predecessor Projects: ADS ID-4310-01, WROC Operations; ADS ID-4311-02, Low-Level Waste Operations; Portions of ADS ID-4302-01 FFCA Implementation and Waste TSD Optimization (Special Case Waste and off-site LLW disposal), ADS ID-4303-01 Waste Management General Plant Projects (for LLW and MLLW GPP projects), ADS ID-1001-01 High Level Waste (ICPP LLW handling, hazardous waste and MLLW storage plus industrial waste cubic operations)

The Idaho National Engineering and Environmental Laboratory (INEEL) has been supporting the Department of Energy (DOE) in nuclear energy research for over forty years. This research has routinely generated mixed low-level waste (MLLW), low-level waste (LLW), hazardous waste (HW), and industrial waste requiring treatment, storage, and/or disposal (TSD). Cost/benefit studies are routinely used to evaluate commercial treatment and disposal services, in lieu of INEEL services. Commercial facilities are used where they can be shown to be cost effective. The cost of treating other DOE site MLLW is included in this PBS. The only cost required to be paid by the other DOE sites include commercial disposal, if available at the time of treatment, and any required treatability studies.

The INEEL and other DOE sites generated and stored MLLW for years without having provisions for meeting the requirements of the Resource Conservation and Recovery Act (RCRA). The Federal Facility Compliance Act (FFC Act), passed in 1992, requires DOE to prepare a plan for the development of needed treatment capacity and technology for each facility at which DOE generates or stores mixed waste and hazardous waste. The INEEL has complied with the FFC Act and has an approved Site Treatment Plan (STP) and associated Consent Order. This project supports STP compliance by providing incineration, stabilization, macroencapsulation,

## Project Baseline Summary Report

Report ID Number: Q501

Data Version: 16-Jan-98

Print Date: 19-Feb-98

Operations/Field Office: Idaho

Site: Idaho National Engineering and Environmental Laboratory

HQ ID: IDIN0570 Project: INEEL Low-Level Waste/Mixed Low-Level Waste/ Other Waste Program (ID-WM-101)

### A.2. Technical and Scope Narratives

sizing/sorting/segregation, and lead cask dismantlement services for the treatment of INEEL and other DOE Complex sites MLLW through FY2003 and commercial treatment of INEEL MLLW between FY2004 and FY2006 using the Advanced Mixed Waste Treatment Project (AMWTP).

DOE Order 5820.2A, Revised Interim Policy on Regulatory Structures for Low-Level Radioactive Waste Management and Disposal, and the DOE Implementation Plan for the Defense Nuclear Facility Safety Board (DNFSB) recommendation 94-2 define the requirements for management of LLW. This project provides LLW volume reduction, where possible, through incineration, compaction, and size reduction at the Waste Experimental Reduction Facility (WERF) and to disposal in the active pit of the Radioactive Waste Management Complex (RWMC) Subsurface Disposal Area (SDA). Other DOE Complex or commercial LLW disposal facilities will be utilized after FY2006 for LLW. This project will also plan and coordinate disposition of a small quantity of Special Case Waste (SCW). Waste generators will pay for the actual SCW disposition.

This project also supports RCRA treatment and disposal of HW using commercial TSD facilities, and energy recovery (cuber) of industrial waste to minimize volume of waste disposed.

Treatment, storage, and disposal of MLLW and LLW will decrease human and environmental risk by eliminating the waste stream backlog. Managing the waste in compliance with Federal, State, and DOE regulations reduces personnel exposure to these waste streams. Approved methods for treatment of the waste streams are used in preparation for disposal at approved waste depositories. Long term storage of waste containers will be minimized. The DNFSB Recommendation 94-2 Corrective Action Plan (INEL-96/0261A) addresses the ES&H vulnerabilities identified by the Complex wide review of LLW operations are corrected by this project.

This PBS is sufficiently funded to comply with Federal, State, and local regulations. Failure to comply with the regulatory drivers described above makes the INEEL liable for civil fines and penalties. This project will be followed by the Long Term Treatment/Storage/Disposal Operations project (ID-WM-107) and the AMWTP Production Operations project (ID-WM-105) summarized in Section A.2.6.

# **Project Baseline Summary Report**

**Report ID Number:** Q501

Data Version:	16-Jan-98	Print Date:	19-Feb-98
Operations/Field Office:	<b>Idaho</b>	Site:	<b>Idaho National Engineering and Environmental Laboratory</b>
HQ ID:	<b>IDIN0570</b>	Project:	<b>INEEL Low-Level Waste/Mixed Low-Level Waste/ Other Waste Program (ID-WM-101)</b>

## **A.2. Technical and Scope Narratives**

### **A.2.2. Definition of Scope:**

This project has one primary objective and five secondary objectives. The primary objective is to provide INEEL TSD services for MLLW until a demonstrated, more cost effective, commercial TSD is available to treat MLLW. Current plans call for the AMWTP to start treatment operations in March 2003. Capacity is being designed into the system to handle MLLW along with the transuranic waste. Upon successful demonstration of the AMWTP capability, WROC MLLW treatment activities will be suspended in September 2003.

Secondary objectives include: 1) Provide volume reduction and disposal of INEEL generated LLW through FY2006; 2) Establish off-site LLW disposal agreements/contracts at other DOE or commercial sites to support LLW disposal once the RWMC SDA active pit is filled; 3) Provide centralized planning and coordination for INEEL Special Case Waste (SCW) disposition; 4) Coordinate TSD services for INEEL generated HW; 5) Process INEEL combustible industrial waste into feed for the Idaho Chemical Processing Plant (ICPP) coal-fired steam generating plant.

The INEEL will focus on using the WERF incinerator to treat INEEL generated MLLW along with scheduling the excess capacity for other DOE sites MLLW. Ten incineration campaigns are planned each fiscal year at WERF. This approach is consistent with the DOE complex EM Integration Team, and in accordance with the INEEL STP. Compliance with the STP and RCRA will require:

- Operation of four MLLW treatment processes (incineration, stabilization, repackaging booth, and lead cask dismantlement/bulk lead treatment and disposal);
- Operation of four RCRA permitted storage facilities (PER-623 WERF Waste Storage Building (WWSB), PER-613 Mixed Waste Storage Facility (MWSF), Idaho Chemical Processing Plant (ICPP)-1617 Radioactive Mixed Waste Storage Facility, ICPP-1619 Hazard Chemical and Radioactive Waste Storage Facility);
- Maintain the INEEL emergency supply of bulk lead brick, sheet, and shot (PER-612 WROC Lead Storage Facility (WSLF));
- Construction/operation of two new skid-mounted type treatment processes (macroencapsulation and sizing/sorting/segregation);
- Other DOE Complex or commercial treatment/disposal facilities will be used to support compliance with the STP. Examples include the DOE Oak Ridge Toxic Substance Control Act (TSCA) incinerator and the RCRA Subtitle C disposal facility operated by Envirocare in Utah.

The focus of the secondary objectives is to: 1) conduct LLW volume reduction through 2003 and disposal of INEEL generated LLW through 2006. Corrective actions identified in the DOE Implementation Plan for the DNFSB Recommendation 94-2 will be completed which will support continued environmentally safe LLW disposal

# Project Baseline Summary Report

Report ID Number: Q501

Data Version: 16-Jan-98

Print Date: 19-Feb-98

Operations/Field Office: Idaho

Site: Idaho National Engineering and Environmental Laboratory

HQ ID: IDIN0570 Project: INEEL Low-Level Waste/Mixed Low-Level Waste/ Other Waste Program (ID-WM-101)

## A.2. Technical and Scope Narratives

through 2006. 2) Centralized planning to disposition SCW will be coordinated with the waste generators. SCW will require continued storage until disposal options are available. 3) Commercial TSD facilities will continue to be utilized for hazardous waste through FY2006. 4) Operation of the cuber will continue to process industrial waste through FY2006. The processing schedules for MLLW, LLW, HW, and industrial waste are described in Section A.4.

### A.2.3. Technical Approach:

The overall approach for MLLW, LLW, SCW, HW, and industrial waste is to utilize the most cost effective option available. As commercial treatment and disposal capabilities become available and are proved cost effective, they will be used whenever possible, followed by existing INEEL or DOE Complex treatment units.

When treatment capability for specific MLLW streams is not available, new units will be designed and constructed (i.e., macroencapsulation). These new treatment processes will be designed for batch processing and have a small treatment capacity (tens of cubic meters per year). Small skid mounted treatment units will be constructed and placed into existing confinement areas for operation. Several treatment processes will be operated within the same confinement area within a given year. This represents a very low capital and cost effective approach to eliminating mixed waste streams at the INEEL in full compliance with the STP enforceable milestones.

A secondary advantage of MLLW treatment is LLW volume reduction. WERF incinerator operates continuously (24 hours per day/7 days per week) for approximately two weeks per month. During incineration of characteristic MLLW, the waste feed is supplemented with LLW in order to maintain incinerator operating temperatures. The resulting ash meets the criteria for disposal as LLW (either directly or following stabilization). This provides a dual benefit in that no surrogate material (e.g., clean feed stock such as corncobs, plastic, or oil used to increase the BTU content of the waste feed) must be purchased for supplemental waste feed and the LLW is treated for no additional cost. Listed MLLW is similarly augmented with LLW. The principal difference is that the amount of LLW is minimized because the resulting ash remains listed MLLW and requires offsite disposal at a Subtitle C facility.

Further LLW volume reduction is accomplished with the same operations staff required for MLLW incineration. When the incinerator is down for ash clean-out or maintenance, the same operational staff operates other MLLW treatment units or LLW size reduction and compaction processes. This provides significant LLW volume reduction, maximizing the effective use of the RWMC SDA active pit space for no additional labor costs.

# **Project Baseline Summary Report**

*Report ID Number: Q501*

Data Version:	16-Jan-98	Print Date:	19-Feb-98
Operations/Field Office:	Idaho	Site:	Idaho National Engineering and Environmental Laboratory
HQ ID:	IDIN0570	Project:	INEEL Low-Level Waste/Mixed Low-Level Waste/ Other Waste Program (ID-WM-101)

## **A.2. Technical and Scope Narratives**

Special Case Waste is generally not acceptable for near-surface disposal and has limited or no planned disposal alternative. SCW activities at the INEEL, within this PBS, are limited to a coordination effort for the SCW generators. Efforts include inventory of known SCW volumes, and coordinating generator treatment/temporary storage options.

Hazardous Waste (HW) will be consolidated in storage facilities or at the generating facility, awaiting treatment /disposal at an off site facility. Off site treatment/disposal facilities will be evaluated in support of direct shipment from the INEEL generator to the treatment/disposal vendor, thereby reducing the need for on site HW storage needs.

Industrial Waste cuber operations will continue in support of alternate fuel source for the coal fired steam generating facility at ICPP and reduced the volume disposed at the INEEL landfill.

Future technology development opportunities have been identified for advanced air pollution control methods including polishing capability for removal of dioxins, mercury, toxic metals, nitrogen and sulfur oxides, and hazardous hydrocarbons. Although none of these advanced technologies are required to support compliance with current State and Federal regulations and permits, they may result in increased throughput, reduced costs, or enhanced monitoring and will be pursued where practical. EPA's new MACT Rule may require enhanced mercury and dioxin controls or monitoring at WERF. STCG Number 3.2.32, "Develop Thermal Treatment Unit Offgas CEM Monitors" and "Dioxin and Mercury Control for Incinerator Emissions for MACT Compliance" (STCG Number 3.1.31) are specific examples of these types of opportunities this PBS is pursuing.

### **A.2.4. Project Status in FY 2006:**

The backlog of MLLW associated with this PBS will be treated and disposed by 2003. WROC MLLW and LLW treatment processes will be shut down in 2003. RCRA closure of WERF, the Repackaging Booth and two hazardous and MLLW storage facilities will be performed from 2004 through 2005 and is included in PBS ID-ER-110 - Decontamination & Decommissioning (D&D).

The backlog of contact handled LLW will be volume reduced and disposed by 2003. The Environmental Restoration (ER) and D&D programs will utilize the remaining capacity such that the active RWMC SDA disposal pit is predicted to be full by the year 2006 and will be ready for closure. RWMC SDA closure is included in PBS ID-ER-

## Project Baseline Summary Report

Report ID Number: Q501

Data Version: 16-Jan-98

Print Date: 19-Feb-98

Operations/Field Office: Idaho

Site: Idaho National Engineering and Environmental Laboratory

HQ ID: IDIN0570 Project: INEEL Low-Level Waste/Mixed Low-Level Waste/ Other Waste Program (ID-WM-101)

### A.2. Technical and Scope Narratives

110 - Decontamination & Decommissioning (D&D). Volume reduction between 2004 and 2006 will use commercial facilities. The selected offsite disposal facility approved Waste Certification Programs and Waste Stream profiles will be in place by end of FY2004 for disposal of offsite contact handled (CH) LLW. CH waste will be actively disposed at the selected offsite disposal facility by FY2006. Preparations for RH waste disposal offsite will be in place. Issues will have been resolved regarding disposal offsite. The DOE Programmatic Impact Statement on Waste Management Activities will be issued and the path forward will be established. Cost/benefit studies will be completed. Continued onsite disposal of RH LLW may continue past FY2006. PBS #ID-WM-107 – Long Term Treatment/Storage/disposal Operations will perform this activity. After 2006, offsite disposal of LLW will be under PBS #ID-WM-107 – Long Term Treatment/Storage/disposal Operations.

The majority of SCW sealed sources will have been transferred to consolidated onsite storage and/or recycled offsite by FY2006. For other SCW, the generators will have completed characterization and the requirements for shipping and disposal will be identified and included in outyear funding requests.

HW and industrial waste will continue to be treated and disposed as it is generated. No backlog is anticipated.

#### A.2.5. Post 2006 Project Scope:

MLLW generation will continue for the life of the INEEL. Operation of the remaining MLLW storage facilities, along with treatment of newly generated MLLW by the AMWTP will be transferred to PBS ID-WM-107, Long Term Treatment/Storage/Disposal Operations beginning in 2007.

LLW generation will continue for the life of the INEEL. Commercial LLW volume reduction and offsite disposal of newly generated waste will be transferred to PBS ID-WM-107, Long Term Treatment/Storage/Disposal Operations beginning in 2007.

Centralized planning and coordination of SCW will be transferred to PBS ID-WM-107, Long Term Treatment/Storage/Disposal Operations beginning in 2007. The waste generators will be responsible for actual disposition costs.

HW generation will continue for the life of the INEEL. Commercial treatment and disposal facilities will continue to be utilized. Operation of the remaining hazardous waste storage facilities and shipment coordination services will be transferred to PBS ID-WM-107, Long Term Treatment/Storage/Disposal Operations beginning in 2007.

# **Project Baseline Summary Report**

*Report ID Number: Q501*

Data Version:	16-Jan-98	Print Date:	19-Feb-98
Operations/Field Office:	<b>Idaho</b>	Site:	<b>Idaho National Engineering and Environmental Laboratory</b>
HQ ID:	<b>MDIN0570</b>	Project:	<b>INEEL Low-Level Waste/Mixed Low-Level Waste/ Other Waste Program (ID-WM-101)</b>

## **A.2. Technical and Scope Narratives**

Industrial waste generation will continue for the life of the INEEL. Operation of the ICPP cuber for industrial waste will be transferred to PBS ID-WM-107, Long Term Treatment/Storage/Disposal Operations beginning in 2007.

### **A.2.6. Project End State**

MLLW, LLW, SCW, HW, and industrial waste generation will continue for the life of the INEEL. A significant portion of these wastes will be dispositioned within the 2006 Plan period; however, some services will extend up to FY2050. The final end state is to have all waste treated and disposed. Buildings will have been turned over to other programs for demolition or reuse. No legacy waste issues will remain.

Treatment of the MLLW backlog associated with this PBS was completed in 2003. Portions of the INEEL STP dealing with WROC MLLW treatments are marked complete. WROC MLLW treatment facilities and two hazardous waste and MLLW storage facilities were closed under RCRA (beginning in 2004). The remaining storage facilities were closed (beginning in 2011) when consolidated hazardous waste and MLLW storage was implemented within a Type II storage module at the RWMC. Buildings have been turned over for demolition or reuse. MLLW will be generated on the INEEL as long as nuclear operations continue. Current activities and future programs are expected to generate MLLW through 2050. Future generation of MLLW will be treated by the AMWTP.

The RWMC SDA CH LLW active disposal cell has been filled and the area was closed (beginning in 2007). LLW will be generated on the INEEL as long as nuclear operations continue. Current activities and future programs are expected to generate LLW through 2050. LLW volume reduction and disposal operations will be conducted at an offsite DOE or commercial facility. Special case waste has been dispositioned, primarily through shipment of material to an offsite geologic repository.

Hazardous waste will be generated in limited amounts due to the close of operations at the INEEL. Hazardous waste generated during D&D activities would be shipped directly from the generator to an off site treatment/disposal facility. HW storage facilities will be turned over for demolition or reuse.

Cuber operations are complete and the building has been turned over for demolition or reuse.

# Project Baseline Summary Report

Report ID Number: Q501

Data Version: 16-Jan-98

Print Date: 19-Feb-98

Operations/Field Office: Idaho

Site: Idaho National Engineering and Environmental Laboratory

HQ ID: IDIN0570 Project: INEEL Low-Level Waste/Mixed Low-Level Waste/ Other Waste Program (ID-WM-101)

## A.2. Technical and Scope Narratives

### A.2.7. General Narrative:

Efforts are currently underway to evaluate closure of the RWMC SDA prior to 2006. Joint Waste Operations and Environmental Restoration task teams have been chartered to develop the strategy, along with a project based work plan to implement the strategy. The work plan (technical, cost, schedule) will then be integrated into specific 2006 Plan Project Baseline Summaries identified for the INEEL. The strategy will include optimization of the remaining capacity of the RWMC SDA based on: cost effectiveness, compliance with the PA limits, maintaining adequate capacity for critical customers, and filling the remaining capacity by 2003.

The LLW Quantity Table show disposition of the LLW backlog by the end of FY1999. This creates a significant spike in the quantity of sizable and non-volume reducible LLW requiring processing or shipment in FY1999. Current baseline funding does not support these values; however, efforts are underway to evaluate process changes which could result in increased throughput without significant increase in costs. Examples include: use of soft bags for disposal of large quantities of LLW and revision of the selection criteria for when it is cost effective for size reduction (i.e., do not size materials which give less than a 10 to 1 volume reduction).

### A.2.8. Cost Baseline Narrative:

A detailed cost estimate was performed for each activity. The detailed estimates are for specific activities that must be performed to accomplish the project activities in full compliance with the Federal, State, and local regulations. The activities and costs were verified by a senior internal review board and rolled into a resource-loaded schedule that reflects current baseline compliance operations. Waste Operations is now in the process of projectizing activities to obtain further efficiencies. In completing the compliance baseline, an integral component of the projectization will be to perform a critical analysis of our estimate by an independent review team. The cost estimates are based on FY1998 dollars with escalation of 2.7% applied annually on a compound basis to FY2006.

The cost baseline in this PBS does not include a charge back strategy for billing DOE sites for MLLW treatment services. This strategy may be modified once chargeback issues have been resolved throughout the complex.

### A.2.9. Discuss How NEPA will or has been Address

Workscope described in this PBS is covered by the Department of Energy Programmatic Spent Fuel Management and Idaho National Engineering Laboratory Environmental Restoration and Waste Management Programs Final Environmental Impact Statement (DOE/EIS-0203-F) April 1995, and associated Record of Decision, May 1995. One

# **Project Baseline Summary Report**

		<i>Report ID Number: Q501</i>
Data Version:	16-Jan-98	Print Date: 19-Feb-98
Operations/Field Office:	<b>Idaho</b>	Site: Idaho National Engineering and Environmental Laboratory
HQ ID:	<b>IDIN0570</b>	Project: INEEL Low-Level Waste/Mixed Low-Level Waste/Other Waste Program (ID-WM-101)
<b>A.2. Technical and Scope Narratives</b>		
future action (offsite disposal of LLW at another DOE Complex or commercial facility) is dependent on decisions made in the Department of Energy Waste Management Programmatic Environmental Impact Statement. Individual projects are reviewed prior to implementation to ensure that adequate NEPA documentation exists or supplemental NEPA documentation is prepared.		
<b>A.2.10. 1997 Actual Accomplishments:</b>		
<ul style="list-style-type: none"><li>- The quantity of incinerable mixed waste treated in FY1997 was 52 m<sup>3</sup> (original container volume). This waste had a repackaged volume of 286.5 m<sup>3</sup> and weight of 87,221 lbs. There were six mixed waste burn campaigns, including two burn campaigns to treat off site waste. The RCRA Mini and Trial Burns were accomplished. Not all of the targets for the high temperature portion of the Trial Burn were achieved (destruction removal efficiency (DRE) for chlorobenzene was slightly low in one of the three runs). A second high temperature Trial Burn will be performed in FY1998.</li><li>- WROC completed the five scheduled INEL Site Treatment Plan milestones during FY1997. The MLLW Repackaging Booth Commence System Testing (P-4) and Commence Operations (P-5) milestones were both completed three weeks ahead of schedule. The INEEL Lead Program completed the Lead Cask Dismantlement Backlog P-6-1 and P-6-2 milestone 18 months ahead of schedule (61 m<sup>3</sup>). The incineration Backlog Schedule (P-6) milestone was completed on schedule.</li><li>- WROC supported the DOE, EM50 Cooperative Agreement and the DOE-ID/U.S.Army, Rock Island, Intra Agency Agreement and shipped approximately 39.4 m<sup>3</sup> of contaminated lead to Envirocare of Utah for disposal.</li><li>- WROC completed 14 treatability studies in FY1997. Currently only 12 stored mixed waste streams remain that require treatability studies.</li><li>- The 1997 MLLW first half Performance Measure Metrics Line C. New Waste includes an adjustment (74.5 m<sup>3</sup>) from what was previously submitted. This also increases Line A. Storage - Total Inventory.</li><li>- The second half Performance Measure Metrics Line C. New Waste includes 61 m<sup>3</sup> of INEEL generated MLLW plus 15.1 m<sup>3</sup> received from Los Alamos for incineration.</li><li>Line D. Treatment includes: 1 m<sup>3</sup> of incineration, 0.5 m<sup>3</sup> from ICPP debris treatment, 17.9 m<sup>3</sup> from the ANL-W Sodium Processing Facility, and 61 m<sup>3</sup> of cask dismantlement (this volume will be reflected in Line G once the lead is recycled) . Line G. Volume Reduced is composed of two parts: 1) 57.2 m<sup>3</sup> inventory reduction, 2) 19 m<sup>3</sup> of contaminated lead sent to Manufacturing Sciences Corporation (MSC) for reuse in manufacturing shielded waste containers.</li><li>- WROC volume reduced 4,324 m<sup>3</sup> of low level waste in FY1997, using the sizing, compaction and incineration process.</li><li>- Approximately 1,400 m<sup>3</sup> of LLW was disposed of at the RWMC Sub Surface Disposal Area in FY1997.</li><li>- Low Level Waste Value Engineering Study (report issued 6/96, revised 12/96) issues were successfully closed out in FY1997. Long term items were transferred to other</li></ul>		

# Project Baseline Summary Report

Report ID Number: Q501

Data Version: 16-Jan-98

Print Date: 19-Feb-98

Operations/Field Office: Idaho

Site: Idaho National Engineering and Environmental Laboratory

HQ ID: IDIN0570 Project: INEEL Low-Level Waste/Mixed Low-Level Waste/ Other Waste Program (ID-WM-101)

## A.2. Technical and Scope Narratives

management tracking systems.

- Low Level Waste Vulnerability Assessment Corrective Action Plan deliverables for FY1997 were completed with the exception of the Composite Analysis. LMITCO and DOE-ID are working with the Naval Reactors Facility and Argonne National laboratories to obtain past disposal information that is to be included in the Composite Analysis. The SDA Performance Assessment was completed and submitted to DOE for review and approval.
- The Industrial Waste Program accomplished collection, monitoring, handling, shredding, cubing, and disposal of approximately 2,120 m<sup>3</sup> of solid industrial waste.

### A.2.11. 1998 Planned Accomplishments:

- Perform treatability studies on ten MLLW streams in support of MLLW treatment operations.
- Complete construction and initiate operations of the macroencapsulation (43 m<sup>3</sup>) and sizing/opening/segregation (60 m<sup>3</sup>) MLLW treatment units.
- Continue lead cask dismantlement activities at a reduced level from FY1997.
- Treat waste at WERF greater than 70 percent of the time (24 hrs per day, 365 days per year).
- Conduct LLW incineration (1416 m<sup>3</sup>), sizing (708 m<sup>3</sup>), and compaction (900 m<sup>3</sup>) operations on INEEL generated waste.
- Incinerate INEEL and other DOE sites MLLW (439 m<sup>3</sup> original container volume).
- Stabilize WERF ash and other MLLW using Portland cement or other compatible materials 40 m<sup>3</sup>.
- Continue to expand MLLW/LLW production capability by increasing WERF operator certifications on MLLW/LLW treatment processes.
- Perform stabilization demonstration in conjunction with the Mixed Waste Focus Area using the ANL-E developed phosphate bonded ceramic process.
- Operate and maintain the MWSF, WWSB, CPP-1617, and CPP-1619 for hazardous waste and MLLW including interfacing with INEEL users.
- Maintain the INEEL lead emergency shielding reserve in the WLSF.
- Dispose up to 1800 m<sup>3</sup> of LLW in the SDA.
- Perform activities to support the implementation of DNFSB recommendation 94-2.
- Submit the performance assessment / Composite Analysis report to DOE-HQ for the RWMC SDA.
- Submit annual report to DOE-HQ on Summary of Waste Disposal Operations and Performance Assessment Adequacy for the SDA.
- Conduct limited analyses, such as C-14 monitoring, H-3 monitoring and perched water and moisture migration monitoring to support PA dose calculations for the SDA.
- Provide overall strategic planning, technical waste evaluations and facilitate coordination between program and facility owners of SCW in continuing characterization,

# **Project Baseline Summary Report**

		<i>Report ID Number: Q501</i>
Data Version:	16-Jan-98	Print Date: 19-Feb-98
Operations/Field Office:	<b>Idaho</b>	Site: Idaho National Engineering and Environmental Laboratory
HQ ID:	<b>IDIN0570</b>	Project: INEEL Low-Level Waste/Mixed Low-Level Waste/Other Waste Program (ID-WM-101)
<b>A.2. Technical and Scope Narratives</b>		
preparation for interim storage and final geologic disposal.		
- Operate the industrial waste cuber for onsite and Idaho Falls INEEL facilities generated wastes (5738 m <sup>3</sup> ).		
<b>A.2.12. 1999 Planned Accomplishments:</b>		
- Continue lead cask dismantlement activities. Complete P6-3 Lead Cask dismantlement 75% treatment STP milestone.		
- Continue MLLW lead treatment/disposal at Envirocare, Utah.		
- Treat waste at WERF greater than 70 percent of the time (24 hrs per day, 365 days per year).		
- Conduct LLW incineration (2748 m <sup>3</sup> ), sizing (3032 m <sup>3</sup> ), and compaction (400 m <sup>3</sup> ) operations on INEEL generated waste.		
- Incinerate INEEL and other DOE sites MLLW (439 m <sup>3</sup> original container volume).		
- Stabilize WERF ash and other MLLW using Portland cement or other compatible materials (40 m <sup>3</sup> ).		
- Operate the macroencapsulation (43 m <sup>3</sup> ) and sizing/opening/segregation (60 m <sup>3</sup> ) MLLW treatment units.		
- Continue to expand MLLW/LLW production capability by increasing WERF operator certifications on MLLW/LLW treatment processes.		
- Operate and maintain the MWSF, WWSB, CPP-1617, and CPP-1619 for hazardous waste and MLLW including interfacing with INEEL users.		
- Maintain the INEEL lead emergency shielding reserve in the WLSF.		
- Dispose up to 1800 m <sup>3</sup> of LLW in the SDA;		
- Perform PA validation studies based on Operations, D&D and Environmental Restoration activities;		
- Activities to establish site specific release and transport rates for radionuclides will continue, and long-term waste generation projection rates will be updated.		
- Provide overall strategic planning, technical waste evaluations and facilitate coordination between program and facility owners of SCW. Provide focused planning on Special Performance Assessment Required (SPAR) SCW characterization needs.		
- Operate the industrial waste cuber for onsite and Idaho Falls INEEL facilities generated wastes (7650 m <sup>3</sup> ).		

# Project Baseline Summary Report

Report ID Number: Q501

Data Version: 16-Jan-98

Print Date: 19-Feb-98

Operations/Field Office: Idaho

Site: Idaho National Engineering and Environmental Laboratory

HQ ID: IDIN0570 Project: INEEL Low-Level Waste/Mixed Low-Level Waste/ Other Waste Program (ID-WM-101)

## A.2. Technical and Scope Narratives

### A.2.13. 2000 Planned Accomplishments:

- Continue lead cask dismantlement activities.
- Continue MLLW lead treatment/disposal at Envirocare, Utah.
- Treat waste at WERF greater than 70 percent of the time (24 hrs per day, 365 days per year).
- Conduct LLW incineration (1094 m<sup>3</sup>), sizing (307 m<sup>3</sup>), and compaction (413 m<sup>3</sup>) operations on INEEL generated waste.
- Incinerate INEEL and other DOE sites MLLW (439 m<sup>3</sup> orginal container volume).
- Operate the macroencapsulation (43 m<sup>3</sup>) and sizing/opening/segregation (60 m<sup>3</sup>) MLLW treatment units.
- Stabilize WERF ash and other MLLW using Portland cement or other compatible materials (40 m<sup>3</sup>).
- Operate and maintain the MWSF, WWSB, CPP-1617, and CPP-1619 for hazardous waste and MLLW including interfacing with INEEL users.
- Maintain the INEEL lead emergency shielding reserve in the WLSF.
- Dispose up to 1800 m<sup>3</sup> of LLW in the SDA.
- Provide overall strategic planning, technical waste evaluations and facilitate coordination between program and facility owners of SCW. Provide focused characterization and preparation planning of SPAR SCW for removal from storage pools to support D&D schedules for wet storage facilities.
- Operate the industrial waste cuber for onsite and Idaho Falls INEEL facilities generated wastes (7650 m<sup>3</sup>).
- Revise RWMC Performance Assessment and submitt to DOE-ID/DOE-HQ for approval.
- Collect data on corrosion tests at the RWMC SDA and issue report.
- Issue report on the column tests being conducted to identify subsurface transport rates.
- Issue radionuclide data report from the generator characterization improvement study for ICPP.

# Project Baseline Summary Report

Date Version: 16-Jan-98

Operations/Field Office: Idaho

HQ ID: IDIN0570 Project: INEEL Low-Level Waste/Mixed Low-Level Waste/ Other Waste Program (ID-WM-101)

*Report ID Number: Q501*

Print Date: 19-Feb-98

Site: Idaho National Engineering and Environmental Laboratory

## A.2.15. Baseline Costs (in thousands of dollars)

	Date Submitted: 12/12/97		1997-2006 Total	2007-2070 Total	Grand Total	Planned 1997	Actual 1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007
Current Cost Baseline	209,606	0	209,606	21,908	23,615	22,011	27,232	24,882	21,751	21,626	22,460	17,053	16,808	13,875			
Const 98 Baseline	193,490	0	193,490	22,500	24,253	22,011	26,516	23,591	20,080	19,440	19,659	14,534	13,948	11,212			
Storage	192,898	0	192,898	21,908	21,908	22,011	26,516	23,591	20,079	19,439	19,660	14,534	13,948	11,212			
Const 98 Storage	178,937	0	178,937	22,500	22,500	22,011	25,819	22,367	18,537	17,474	17,208	12,387	11,575	9,060			
	2008	2009	2010	2011- 2015	2016- 2020	2021- 2025	2026- 2030	2031- 2035	2036- 2040	2041- 2045	2046- 2050	2051- 2055	2056- 2060	2061- 2065	2066- 2070		
Current Cost Baseline																	
Const 98 Baseline																	
Storage																	
Const 98 Storage																	

## A.2.16. Non EM Costs included in the Cost Baseline

	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
Environmental Management	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
	2010	2011-2015	2016-2020	2021-2025	2026-2030	2031-2035	2036-2040	2041-2045	2046-2050	2051-2055	2056-2060	2061-2065	2066-2070
Environmental Management	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%

## Project Baseline Summary Report

Report ID Number: Q501

Data Version: 16-Jan-98

Print Date: 19-Feb-98

Operations/Field Office: Idaho

Site: Idaho National Engineering and Environmental Laboratory

HQ ID: IDIN0570 Project: INEEL Low-Level Waste/Mixed Low-Level Waste/ Other Waste Program (ID-WM-101)

### A.2.17. Related Projects at the Same Site or Operations/Field Office

Project ID	Relation to this Project
ID-WM-105	Post FY2003 long term MLLW treatment
ID-WM-107	Post FY2006 LLW/MLLW management
ID-ER-110	Closure of facilities are performed in this PBS

### A.2.18. Operations/Field Offices with Activities Related to this Project

Ops Office	Relation to this Project
Nevada	Off site LLW disposal at a DOE facility, transport of hazardous, radioactive, and classified material between projects.
Richland	Off site LLW disposal at a DOE facility, treatment of Hanford MLLW at WERF, transport of hazardous, radioactive, and classified material between projects.
Oak Ridge	K-25 incinerator for INEEL PCB waste, , treatment of Paducah MLLW at WERF
Albuquerque	Recycling specific Sealed Sources, transport of hazardous, radioactive, and classified material between projects, treatment of LANL, Sandia, and Pantex MLLW at WERF.
Headquarters	DOE Ofice of Civilian Radioactive Wastemanagement for SPAR SCW disposal with HLW
Chicago	Treatment of ANL MLLW at WERF, transport of hazardous, radioactive, and classified material between projects.
Oakland	Treatment of LBNL and LLNL MLLW at WERF, transport of hazardous, radioactive, and classified material between projects.
Rocky Flats	Treatment of Rocky Flats MLLW at WERF.

# Project Baseline Summary Report

Report ID Number: Q501

Data Version: 16-Jan-98 Print Date: 19-Feb-98

Operations/Field Office: Idaho

Site: Idaho National Engineering and Environmental Laboratory

HQ ID: IDIN0570 Project: INEEL Low-Level Waste/Mixed Low-Level Waste/Other Waste Program (ID-WM-101)

## A.2.18. Operations/Field Offices with Activities Related to this Project

Ops Office	Relation to this Project
Ohio	Treatment of Mound and West Valley MLLW at WERF.
	Treatment of Navy MLLW at WERF.
	Treatment of Weldon Springs MLLW at WERF.

A.2.19. Drivers:	CERCLA	RCRA	DNFSB	AEA	UMTRCA	State	DOE Orders	Other
Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	No

A.2.20. Is this project A-106 (FEDPLAN) compliant?

Yes

## A.3. Milestones

Milestone/Activity	Field Milestone Code	Planned Date	Forecast Date	Actual Date	Status Indicator	EA	DNFSB	EM-1 or S-1	Intersite	HQ Change Control	Management Commitments	Key Decision
Project Start		10/1/96		10/1/96	No	No	No	No	No	No	No	No
Project Mission Complete		9/1/2006			No	No	No	No	No	No	No	No
LT S&M Completion (if applicable)		9/1/2050			No	No	No	No	No	No	No	No
P6 - Incineration - Backlog Schedule		3/1/97		3/1/97	Yes	No	No	No	No	No	No	No
P4 - Repackaging Booth - Commence System Testing		3/1/97		3/1/97	Yes	No	No	No	No	No	No	No

## Project Baseline Summary Report

Report ID Number: Q501

Data Version: 16-Jan-98

Print Date: 19-Feb-98

Operations/Field Office: Idaho

Site: Idaho National Engineering and Environmental Laboratory

HQ ID: IDIN0570 Project: INEEL Low-Level Waste/Mixed Low-Level Waste/ Other Waste Program (ID-WM-101)

### A.3. Milestones

Milestone/Activity	Field Milestone Code	Planned Date	Forecast Date	Actual Date	Status Indicator	EA	DNFSB	EM-1 or S-1	Intersite	HQ Change Control	Management Commitments	Key Decision
Complete WERF RCRA Trial Burn		7/1/97		7/1/97		No	No	No	No	No	No	No
P5 - Repackaging Booth - Commerce Operations		6/1/97		6/1/97		Yes	No	No	No	No	No	No
P3 - Macroencapsulation - Initiate Construction	234M104015	3/1/98				Yes	No	No	No	No	No	No
P3- Sizing/Opening/Segregation - Initiate Construction	234M104050	6/1/98				Yes	No	No	No	No	No	No
P4 - Macroencapsulation - Commerce System Testing	234M101105	9/1/98				Yes	No	No	No	No	No	No
P2 - HG Retort - Procure Contracts		12/1/98			C	Yes	No	No	No	No	No	No
P6 - Repackaging Booth - Backlog Schedule	2320302205	3/1/98			C	Yes	No	No	No	No	No	No
P6 - Stabilization - Backlog Schedule	2320302250	3/1/98				Yes	No	No	No	No	No	No
P4 - Sizing/Opening/Segregation - Commerce System Testing	234M101130	12/1/98				Yes	No	No	No	No	No	No
P6-I - Cask Dismantlement - 25% Backlog Complete	23201011292	3/1/98		9/1/97		Yes	No	No	No	No	No	No
P1 - HG Retort - Submit RCRA Permit		6/1/98			C	Yes	No	No	No	No	No	No
P5 - Macroencapsulation -	2320201805	3/1/99				Yes	No	No	No	No	No	No

## Project Baseline Summary Report

Data Version: **16-Jan-98**

Operations/Field Office: **Idaho**

HQ ID: **IDIN0570** Project: **INEEL Low-Level Waste/Mixed Low-Level Waste/ Other Waste Program (ID-WM-101)**

*Report ID Number: Q501*

Print Date: **19-Feb-98**

Site: **Idaho National Engineering and Environmental Laboratory**

### A.3. Milestones

Milestone/Activity	Field Milestone Code	Planned Date	Forecast Date	Actual Date	Status Indicator	EA	DNFSB	EM-1 or S-1	Intersite	HQ Change Control	Management Commitments	Key Decision
Commence Operations												
P5 - Sizing/Opening/Segregation - Commence Operations	2320201810	6/1/99			Yes	No	No	No	No	No	No	No
P6 - Macroencapsulation - Backlog Schedule	2320302280	9/1/99			Yes	No	No	No	No	No	No	No
P3 - HG Retort - Initiate Construction		12/1/98			C	Yes	No	No	No	No	No	No
P6-2 Cask Dismantlement - 50% Backlog Complete	23201011294	3/1/99		9/1/97	Yes	No	No	No	No	No	No	No
P4 - HG Retort - Establish Contracts		12/1/2000			Yes	No	No	No	No	No	No	No
P6-3 - Cask Dismantlement - 75% Backlog Complete	23201011296	9/1/99			Yes	No	No	No	No	No	No	No
P6 - Sizing/Opening/Segregation - Backlog Schedule	2320302310	6/1/2000			C	Yes	No	No	No	No	No	No
P5 - HG Retort - Ship Waste Offsite for Treatment		3/1/2000			Yes	No	No	No	No	No	No	No
P6 - HG Retort - Submit Backlog Schedule for Offsite Treatment		6/1/2000			Yes	No	No	No	No	No	No	No

## Project Baseline Summary Report

Report ID Number: Q501

Data Version: 16-Jan-98

Print Date: 19-Feb-98

Operations/Field Office: Idaho

Site: Idaho National Engineering and Environmental Laboratory

HQ ID: IDIN0570 Project: INEEL Low-Level Waste/Mixed Low-Level Waste/ Other Waste Program (ID-WM-101)

### A.4. Performance Measure Metrics

Category/Subcategory	Units	1997 Year End	
		Planned	Actual
<b>III. MLLW</b>			
A. Inv. - Total	M3	1,131.00	1,294.93
C. New Waste	M3	72.35	278.70
D. Treatment	M3	150.00	132.48
E. Disp. - On-site/Comm.	M3	106.50	53.26
F. Disp. - DOE Offsite	M3	0.00	3.24
G. Volume Reduced	M3	27.85	120.27
<b>IV. LLW</b>			
A. Inv. - Total	M3	12,843.03	9,731.27
C. New Waste	M3	3,627.41	2,623.41
D. Treatment	M3	3,977.34	4,298.61
E. Disp. - On-site/Comm.	M3	1,813.04	1,293.59
F. Disp. - DOE Offsite	M3	0.00	0.00
G. Volume Reduced	M3	1,763.00	8,367.55
<b>V. HAZ</b>			
A. Inv. - Total	MT	4.50	5.38
C. New Waste	MT	30.00	20.43
D. Treatment	MT	0.00	0.00
E. Disp. - On-site/Comm.	MT	40.00	29.55

## Project Baseline Summary Report

Report ID Number: Q501

Data Version: 16-Jan-98

Print Date: 19-Feb-98

Operations/Field Office: Idaho Site: Idaho National Engineering and Environmental Laboratory

HQ ID: IDIN0570 Project: INEEL Low-Level Waste/Mixed Low-Level Waste/Other Waste Program (ID-WM-101)

### A.4. Performance Measure Metrics

Category/Subcategory	Units	1997 Year End	
		Planned	Actual
V. HAZ			
G. Volume Reduced	MT	0.00	0.00
VI. SAN			
C. New Waste	M3	4,013.92	5,970.41
E. Disp.- On-site/Comm.	M3	4,013.92	5,970.41

### A.6. Validation

#### A.6.1. Project Validated? No

#### A.6.2. Date Validated:

#### A.6.3. Validation Method:

A joint senior level DOE-ID and LMITCO Independent Monitor Board Review of the INEEL decision units was conducted. Six teams consisting of six members reviewed the scope, schedule, cost estimates, and basis of estimates for each of the decision units which are the same base elements used to construct the PBS.

#### A.6.4. Technical Approach Reference Documents:

##### HAZARDOUS WASTE DRIVERS -

DOE: DOE 0231.1; DOE 435.1; DOE Suppl. Order 5400.1 Section 5.

EPA: RCRA Part B Permit; RRWAC DOE/ID 10831; INEEL Site Treatment Plan; National Environmental Policy Act (NEPA).

STATE: Idaho Hazardous Waste Management Act, Chap 44; Environmental Monitoring and Site Agreement; State Water Rights Agreement; Settlement Agreement.

CFR: 40 CFR 260.10; 40 CFR 261.3; 40 CFR 262; 40 CFR 264(1); 40 CFR 264.17; 40 CFR 268.7; 49 CFR 173.24(e); 49 CFR 177.848.

LIQUID TOXICS (on-site discharges) DRIVERS -

## Project Baseline Summary Report

Report ID Number: Q501

Data Version: 16-Jan-98

Print Date: 19-Feb-98

Operations/Field Office: Idaho

Site: Idaho National Engineering and Environmental Laboratory

HQ ID: IDIN0570 Project: INEEL Low-Level Waste/Mixed Low-Level Waste/ Other Waste Program (ID-WM-101)

### A.6. Validation

DOE: DOE 0231.1; DOE 5400.1; RRWAC DOE/ID 10831.

STATE: Idaho Water Quality Standards Wastewater Treatment Req's Manual.

CFR: 40 CFR.

#### SOLID LOW-LEVEL WASTE DRIVERS -

DOE: DOE 0231.1; DOE 0460.1; DOE 435.1; Atomic Energy Act of 1954; DOE 5480.3; INEEL Radiological Control Manual DOE-ID 10399, Art. 422; RRWAC DOE/ID 10831.

EPA: Regulation LLWPAA 1985, PL 99-2; Federal Facilities Compliance Act (FFCA).

STATE: Settlement Agreement; INEEL Site Treatment Plan; WERF SAR; RWMC EDFs 484 & 485; RWMC SAR.

CFR: 10 CFR 20.2005; 10 CFR 61; 49 CFR 172.403; 49 CFR 173.

#### SOLID TRANSURANIC WASTE DRIVERS -

DOE: Atomic Energy Act of 1954; DOE 435.1.

STATE: Settlement Agreement; INEEL Site Treatment Plan.

#### MIXED WASTE DRIVERS -

DOE: DOE 0231.1; DOE 0460.1; DOE 435.1; DOE 5480.3; INEEL Radiological Control Manual DOE-ID 10399, Art 422; RRWAC DOE/ID 10831;

EPA: RCRA Part B Permit, Federal Facilities Compliance Act (FFCA) (180-day report); NEPA.

CFR: 40 CFR 262; 40 CFR 264; 40 CFR 268; 49 CFR 172/173.

STATE: Idaho Hazardous Waste Management Act Chapter 44; Environmental Monitoring Site Agreement; State Water Rights Agreement; Settlement Agreement; INEEL Site Treatment Plan.

#### TRANSPORTATION DRIVERS -

CFR: 49CFR100-180, 10CFR71, 10CFR 830.120, DOE Orders 5700.6C, 460.1A, 5632.11

### A.6.5. Current Status of Project Baseline:

This project baseline currently reflects scope against the FY1998 Congressional appropriation.

### A.6.6. Is the PBS Consistent with the Site Baseline? Yes

# **Project Baseline Summary Report**

*Report ID Number: Q501*

Data Version:	16-Jan-98	Print Date:	19-Feb-98
Operations/Field Office:	Idaho	Site:	Idaho National Engineering and Environmental Laboratory
HQ ID:	<b>DIN0570</b>	Project:	INEEL Low-Level Waste/Mixed Low-Level Waste/ Other Waste Program (ID-WM-101)

## A.6. Validation

### A.6.7. If PBS is Not Consistent with the Site Baseline, Why Not?

N/A

### A.6.8. Future Validation Plans and Schedule:

Project Baseline will be revalidated during final review of PBS by DOE-ID prior to submittal to HQ. No further validation of Project Baseline is anticipated.

**A.6.9. Site Baseline Consistency:** 75% - PBS Well Supported by Site Baseline(s)

**A.6.10. Project End State Definition:** 75% - Project End State is Well Defined

## A.7. Project Assumptions

### Number Assumption

1. Oak Ridge, TN TSCA incinerator is available to treat INEEL TSCA waste at no cost to INEEL.
2. The State of Idaho will approve RCRA Part B permit applications within one year of submittal.
3. Advanced Mixed Waste Treatment Project (AMWTP) is operational in March 2003.
4. Industrial waste collections and disposal are paid out of LMITCO indirect accounts.
5. The cost baseline does not include facility modifications to support the proposed EPA Maximum Achievable Control Technology (MACT) rule. Significant modifications may be required.
6. Left intentionally blank.
7. A waste storage module at the RWMC is available for MLLW and HW storage in FY2010.

# Project Baseline Summary Report

Report ID Number: Q501

Data Version: 16-Jan-98

Print Date: 19-Feb-98

Operations/Field Office: Idaho

Site: Idaho National Engineering and Environmental Laboratory

HQ ID: IDIN0570 Project: INEEL Low-Level Waste/Mixed Low-Level Waste/ Other Waste Program (ID-WM-101)

## A.7. Project Assumptions

### Number Assumption

8. Offsite MLLW generators will not be charged for treatment at WERF. Implementation of a waste generator chargeback process will be re-evaluated once the requirements are better defined across the DOE Complex.
9. Left intentionally blank.
10. The composite analysis required by the Defense Nuclear Facility Safety Board will continue to allow for LLW disposal in the SDA until FY2006.
11. Designation of INEEL as an offsite generator to an offsite DOE facility will be obtained from DOE-HQ prior to FY2004 regardless of the filled status of the active pits at the RWMC.
12. Facility modifications required for RH waste, if required by Naval Reactor Facilities and ATR, will be supported by DOE-HQ as required to meet FY2006 RWMC shutdown schedule, and are not covered in this PBS.
13. Non-EM generators will be financially responsible for cost of disposal of wastes at offsite facilities including waste packaging, characterization, transportation, and disposal.
14. The current moratorium on offsite generators sending waste to the Nevada Test Site will be lifted, or a suitable alternative offsite disposal facility will be identified.
15. SCW in the non-certifiable TRU and non-defense TRU waste subcategories are addressed (and costed) separately under the TRU Project.
16. SCW in the fuel and fuel debris subcategory is addressed (and costed) separately under the Spent Nuclear Fuel Project.
17. Co-disposal of SPAR SCW in a deep geological repository will be possible if proven to be cost effective and safe (no separate repository will be built for SCW).

# Project Baseline Summary Report

Report ID Number: Q501

Data Version: 16-Jan-98 Print Date: 19-Feb-98

Operations/Field Office: Idaho

Site: Idaho National Engineering and Environmental Laboratory

HQ ID: IDIN0570 Project: INEEL Low-Level Waste/Mixed Low-Level Waste/Other Waste Program (ID-WM-101)

## B.1. Budget by Appropriations Account (in thousands of current year dollars)

Appropriations Account	FY 1997 BA	FY 1998 BA	FY 1999 BA	FY 2000 BA
EM Defense	21,027	22,011	27,232	24,882

## C.1. Risk

### C.1.1. Risk Data:

Project risk is a concatenation of a number code and a letter code. The number code represents the level of impact with 1 being the greatest impact and 4 being the least impact. The letter code represents the likelihood of an event occurring (either probability of event or time until event) with A being the most likely and D being the least likely to occur. The risk code is followed by a U, H, M, L, or N (Urgent - N/A) representing the risk level of the project. For a more detailed description of the risk data see Section C.1.1. of the October 1998, 2006 Plan Guidance.

	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Environment	3D - L	3D - L	3D - L											
Public	3D - L	3D - L	3D - L											
Worker	3D - L	3D - L	3D - L											
	2011-2015	2016-2020	2021-2025	2026-2030	2031-2035	2036-2040	2041-2045	2046-2050	2051-2055	2056-2060	2061-2065	2066-2070		

Environment

Public

Worker

- C.1.2. Choose either the public, worker, or the environment as the End-State Risk driver:  
C.1.3. Choose either the public, worker, or the environment as the Interim Risk driver:

Environment  
Worker

## Project Baseline Summary Report

Report ID Number: Q501

Data Version: 16-Jan-98

Print Date: 19-Feb-98

Operations/Field Office: Idaho

Site: Idaho National Engineering and Environmental Laboratory

HQ ID: IDIN0570 Project: INEEL Low-Level Waste/Mixed Low-Level Waste/ Other Waste Program (ID-WM-101)

C.1.4. If upon completion of this project, another project manages its hazards, indicate that project: ID-WM-105 / AMWTP Production Operations

C.1.5. Has the risk evaluation been internally peer reviewed by ES&H professionals? Yes

C.1.6. Has the risk evaluation been externally peer reviewed? Yes

C.1.7. Have regulators, stakeholders, & Tribal Nations been involved in validating the project risk evaluations? Yes

### D.1. - Direct Safety & Health Narratives and Risk Narratives

#### D.1.2. Direct S &H Narrative - Hazards:

This project, currently in the operational phase, contains the S&H functions necessary to treat, store, and or dispose of mixed low level (MLLW), hazardous, low level (LLW) and industrial wastes at the INEEL. This project manages and operates the facilities necessary to perform the INEEL missions for the aforementioned waste streams. The facilities are located at three (RWMC, ICPP, and WROC/PBF) different areas on the INEEL at distances up to 10 miles. Hazards associated with the operation activities of this project include occupational, chemical, radiation exposure and risk to workers who operate in industrial facilities. Radiological and chemical exposure can occur during waste processing and material handling as well as a result of a fire or spill.

Hazards are documented and addressed in hazard analyses, Safety Analysis Reports, a Health and Safety Program, and operation documentation (i.e. Radiological Work Permit, Safe Work Permit, Confined Space Permit, etc.).

Hazards are mitigated by job planning and during operations by incorporating engineered controls (e.g. ventilation), the use of personnel protective equipment, monitoring, training, work procedures, and the INEEL ALARA Program. INEEL personnel have participated in the Voluntary Protection Program and are aware that their personnel safety begins with their own attitude.

At the end state of this project, the hazards are mitigated due to the completion of treatment and the disposal of the waste.

This project's cask dismantlement activities pose an additional risk to personnel concerning the uptake of airborne lead particles. Although this PBS provides for dismantlement activities it does not evaluate the hazards that are associated with the activity. The INEEL Test Area North (TAN) performs these activities in accordance with LMITCO procedure MCP 2720 and has evaluated the industrial, radiological, and medical hazards associated with lead handling. The lead hazards, if above the Personnel Exposure Limit (PEL), will be documented in an internal Compliance Plan and are reviewed by first line management and cognizant S&H personnel.

# Project Baseline Summary Report

Report ID Number: Q501

Data Version:	16-Jan-98	Print Date:	19-Feb-98
Operations/Field Office:	<b>Idaho</b>	Site:	<b>Idaho National Engineering and Environmental Laboratory</b>
HQ ID:	<b>IDIN0570</b>	Project:	<b>INEEL Low-Level Waste/Mixed Low-Level Waste/Other Waste Program (ID-WM-101)</b>

## D.1. - Direct Safety & Health Narratives and Risk Narratives

### D.1.3. Direct S&H Narrative - Controls:

Continued treatment/disposal of LLW/MLLW at the INEEL reduces the environmental and health risks as outlined in the Programmatic Spent Nuclear Fuel Management and INEL Environmental Restoration and Waste Management Programs Final Environmental Impact Statement (INEL EIS), Volume 2, table 5.14-3 (Alternate A) and Table 5.14-8 (Alternative D). In addition, facilities have current authorization bases, within this project, including facility specific Safety Analysis Reports, RCRA Interim Status/Permit status, the INEL Site Treatment Plan, Performance Assessment, and/or Hazard Analyses.

Personnel hazards are mitigated during day to day operations by implementation of a Conduct of Operations approach including elements like work control procedures, Compliance Plan, radiological hazard analysis, safe work permits and industrial safety and industrial hygiene monitoring. Proper use of personnel protective equipment is ensured through training, health and safety professional reviews, and job supervisor spot checks. The INEEL ALARA Program is fully implemented at the facility and personnel exposure is minimized. The medical bioassay program for monitoring chemical and radiological uptakes is provided within this project.

This project's hazard bases can be found in the following documents:

Hazard Analysis for Waste Experimental Reduction Facility; EGG-WM-11467, September 1994 and can be found in WROC Document Control, Building PER 601, Hazard Analysis for WROC mixed waste storage (MWSEFPSU); EGG-WM-11153, February 1994 and can be found in WROC Document Control, Building PER 601, Waste Experimental Reduction Facility Safety Analysis Report; INEL-96/0165 (WERF), August 1996 and can be found in WROC Document Control, Building PER 601, Mixed Waste Storage Facility Safety Analysis Report; EGG-WM-10896 (MWSEFPSU), Rev.1, January 1996 and can be found in WROC Document Control, Building PER 601, Idaho Chemical Processing Plant Safety Analysis Report; WIN-107-8-9, June 1994, and document can be found in ICPP Document Control, building CPP665, Radioactive Waste Management Complex Low Level Waste Radiological Performance Assessment, EGG-WM-8773, May 1994 . Radioactive Waste Management Complex Safety Analysis Report, INEL-94/0226, Rev. 2, 7/1997.

### D.1.4. Direct S&H Narrative - Work Performance:

The resources necessary to accomplish MLLW treatment and LLW volume reduction safely is provided through the funding authorization for this project. Resources necessary for S&H oversight for disposal of LLW at the Radioactive Waste Management Complex (RWMC) is supported by the tenant facility and PBS WM-103 - INEEL TRU Waste Program. S&H resources within this project are planned and resource loaded into the project management software on a life cycle bases. Activities within this project have been classified as less than Category III under DOE Order 5480.22, therefore, new MLLW treatment activities do not require an Operational Readiness Assessment. The project will perform a Management Assessment of all new waste treatment processes prior to operations.

# Project Baseline Summary Report

Report ID Number: Q501

Data Version: 16-Jan-98

Print Date: 19-Feb-98

Operations/Field Office: Idaho

Site: Idaho National Engineering and Environmental Laboratory

HQ ID: IDIN0570 Project: INEEL Low-Level Waste/Mixed Low-Level Waste/ Other Waste Program (ID-WM-101)

## D.1. - Direct Safety & Health Narratives and Risk Narratives

S&H resources necessary to accomplish MLLW treatment activities include pre job safety, radiological, and quality reviews; at the job S&H inspections; daily, weekly, and monthly surveys in S&H areas; continual hazard analysis of high personnel risk activities (ash handling, MLLW repackaging). There is no appreciable change in S&H resource requirements during the operational phase of this project. Upon completion of MLLW treatment that is schedule for this project, closure will commence. Cask dismantlement at TAN and other lead handling activities are addressed by a LMITCO internal Compliance Plan . Industrial, radiological, and medical hazards are outlined by this document, as well as the protective equipment required. Contious monitoring of activities by work supervisors and cognizant professionals help mitigate the possibility of worker exposure to lead.

S&H resources necessary for RCRA closure are included in PBS ID-ER-110 - Decontamination & Decommissioning (D&D). S&H resources necessary for futue treatment of MLLW and disposal of LLW, after 2006, are included in the Long Term Treatment/Storage/Disposal Operations project (ID-WM-107) and the AMWTP Production Operations project (ID-WM-105).

The average cost per FTE assumed (burdened rate) is \$85K /year for Industrial Safety, \$82K/year for Industrial Hygiene, \$89K/year Radiological Engineering, \$65K/year for Radiological Control Technician, and \$84K/year for Fire Protection.

### D.1.5. Direct S&H Narrative - Feedback and Continuous Improvement:

S&H compliance is verified by continuous surveillance, tracking of deficiencies in the INEEL ICARE system, and operates an Administrative preventive Maintenance system to control facility status. Maintenance of the compensatory measures will also verify compliance. ES&H oversight assessments will be conducted annually and are provided for in this PBS. Implementation of the INEEL Voluntary Protection Program enables each employee to report and receive closure on items of concern they raise.

### D.1.6. Risk Evaluation Narrative:

Continued treatment of hazardous and radiological contaminated wastes at the INEEL reduces the environmental and health risk as outlined in the Programmatic Spent Nuclear Fuel Management and INEL Environmental Restoration and Waste Management Programs Final Environmental Impact Statement (INEL EIS), Volume 2, Table 5.14-3 (Alternative A) and Table 5.14-8 (Alternative). Failure to mitigate existing risks would strongly impact public trust and confidence.

MLLW worst case scenario for treatment operations:

Fire in the WERF Waste Storage Building (WWSB); INEL EIS - Alternative D. The Maximum Treatment Alternative assumes treatment of INEL LLW and MLLW, along

# **Project Baseline Summary Report**

**Report ID Number:** Q501

Data Version: 16-Jan-98 Print Date: 19-Feb-98

Operations/Field Office: Idaho

Site: Idaho National Engineering and Environmental Laboratory

HQ ID: IDIN0570 Project: INEEL Low-Level Waste/Mixed Low-Level Waste/Other Waste Program (ID-WM-101)

## **D.1. - Direct Safety & Health Narratives and Risk Narratives**

with some waste from other DOE Complex of Federal government installations..

Public Safety and Health:

Probability 1E-02/yr; MEI Dose 2.8E-03 rem; MEI Cancer Risk 1.4E-08 fatal cancers/yr.

Site Personnel Safety and Health:

In accordance with DOE-STD-1027, the Category 3 threshold limits for facility inventory of radionuclides is based on Reportable Quantities. DOE-STD-1027 specifies the sum of the ratios limit of one, the maximum dose possible at 30 meters from total facility inventory would be 500 mrem.

Environmental Impact:

Minor onsite environmental impacts due to above release of radioactive and hazardous materials. No offsite health effects.

Per the RWMC SAR, solid LLW disposed of at the SDA is in permanent burial/storage; waste disposed of at the SDA is not intended to be retrieved. The impacts of permanent LLW disposal on the environment and public are not evaluated in the RWMC SAR. LLW operation activity has a less probability and risk to the public than MLLW activities.

## Project Baseline Summary Report

Report ID Number: Q501

Data Version: 16-Jan-98

Print Date: 19-Feb-98

Operations/Field Office: Idaho

Site: Idaho National Engineering and Environmental Laboratory

HQ ID: IDIN0570 Project: INEEL Low-Level Waste/Mixed Low-Level Waste/ Other Waste Program (ID-WM-101)

### D.2. - Safety and HealthDirect Data

#### D.2.2. Safety and Health Cost Reporting - Direct Costs (in thousands of current year dollars)

	1997	1998	1999	2000
A. Emergency Preparedness	86	77	70	70
B. Fire Protection	45	40	40	40
C. Industrial Hygiene	154	138	138	138
D. Industrial Safety	48	43	50	38
E. Occupational Medicine	0	0	0	0
F. Nuclear Safety	191	171	176	176
G. Radiation Protection	1,064	953	930	953
H. Transportation Safety	0	0	0	0
I. Management Oversight	305	273	273	273
Total S&H Direct Costs:	1,893	1,695	1,677	1,688

#### D.2.5. Safety and Health FTE Reporting - Direct Contractor FTEs

	1997	1998	1999	2000
A. Emergency Preparedness	0.74	0.73	0.66	0.66
B. Fire Protection	0.56	0.50	0.50	0.50
C. Industrial Hygiene	2.24	2.01	2.01	2.01
D. Industrial Safety	0.74	0.57	0.66	0.51
E. Occupational Medicine	0.00	0.00	0.00	0.00
F. Nuclear Safety	1.71	1.49	1.53	1.53
G. Radiation Protection	11.12	10.29	9.96	10.27
H. Transportation Safety	0.00	0.00	0.00	0.00
I. Management Oversight	2.28	2.04	2.04	2.04
Total Direct Contractor FTEs:	19.39	17.63	17.36	17.52

## **Project Baseline Summary Report**

*Report ID Number: Q501*

Data Version:	16-Jan-98	Print Date:	19-Feb-98
Operations/Field Office:	<b>Idaho</b>	Site:	<b>Idaho National Engineering and Environmental Laboratory</b>
HQ ID:	<b>IDIN0570</b>	Project:	<b>INEEL Low-Level Waste/Mixed Low-Level Waste/ Other Waste Program (ID-WM-101)</b>

### **E. Enhanced Performance Measures**

#### **E.1. Project Estimates (thousands of current year dollars)**

E.1.1. Current Estimated Lifecycle Cost of Project:	209,606	E.1.2. Previously Estimated Lifecycle Cost of Project:	
E.1.3. Projected Cost for FY 97:	21,908	E.1.4. Projected % Work Completed by End of FY98:	
E.1.5. Current Projected End Date of Project:	01-Sep-06	E.1.6. Previously Projected End Date of Project:	

#### **E.2. Performance for FY 1997 (thousands of current year dollars)**

E.2.1. Actual Cost for FY 97:	23,615	E.2.2. Actual % Work Completed to date:	
-------------------------------	--------	---	--